(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 763 612 A2

# (12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
**19.03.1997 Bulletin 1997/12**

(51) Int. Cl.[6]: **D02G 1/02**

(21) Application number: **96114408.6**

(22) Date of filing: **09.09.1996**

(84) Designated Contracting States:
**DE FR GB IT**

(30) Priority: **14.09.1995 JP 262127/95**

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## (54) A yarn threading method and device for a false twister

(57) The present invention is a false twister that winds a yarn 3 pulled from a supply package 2 onto a winding package 28 after passing it through a first heater H1, a cooling device C and a false twist member T and the like, wherein, by the use of an air current, the yarn 3 pulled from the supply package 2 is automatically threaded as far as a yarn receiving position via, at least, a first heater H1, the cooling device C and the false twist member T.

Accordingly, by the operator simply setting the yarn end of the yarn 3 pulled from the supply package 2 in an air blowing nozzle 10 position and pushing a start button, yarn threading through the first heater H1, the cooling device C and the false twist member T can be carried out instantaneously and without stopping, thus the yarn threading operations can be performed in an extremely short period of time contributing greatly to an improvement in the operating environment of the false twist plant and removing the need for high level operations.

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Printed by Rank Xerox (UK) Business Services
2.13.17/3.4

## Description

### FIELD OF THE INVENTION

The present invention relates to a yarn threading method and device for a false twister such as a draw texturing machine or the like for threading a yarn unwound from a supply package supported on a creel through a heater, cooling device and false twist unit.

### PRIOR ART

Conventionally, a yarn threading operation of a false twister is carried out by an operator using a sucker to suck in a yarn unwound from a supply package supported on a creel and then using a wire to thread the yarn sequentially through a heater, a cooling device, a false twist member and the like.

### PROBLEMS TO BE SOLVED BY THE INVENTION

The above described conventional yarn threading operation of a false twister is carried out manually and as a consequence, are time consuming and result in poor operability.

Furthermore, the conventional yarn threading operations of a false twister require step ladders or carts as the heater, the cooling device and the false twist member are positioned in high places, include the getting on and off and movement of the step ladder/cart and are arduous for the operator.

Yet further, there are problems associated with yarn threading operations using a confined space.

It is an object of the present invention to propose a yarn threading method and device of a false twister that can, without stopping, thread a yarn unwound from a supply package supported on a creel as far as a desired yarn end receiving position such as the exit of a second heater arranged in the vicinity of the windng device.

### SUMMARY OF THE INVENTION

In order to achieve the aforementioned object, the present invention provides a false twister that winds a yarn unwound from a supply package onto a winding package after passing it through a first heater, a cooling device and a false twist member and the like, wherein, by the use of an air current, the yarn unwound from the supply package is transported without stopping as far as a predetermined yarn end receiving position via, at least, the first heater, the yarn cooling device and the false twist member.

And the aforementioned false twister has a second heater in continuance with the false twist member and the aforementioned yarn end receiving position is at the yarn exit of that second heater. A movement means of each of the aforementioned members is controlled by an operation switch positioned on an operation panel in order to ensure the yarn passage necessary for a yarn threading operation from the first heater to the false twist member.

By operation switches positioned on an operation panel, a movement means of the false twist member, a movement means of the yarn guide member of the first heater, a movement means of the cooling device and a means for preventing contact of the yarn on the twist stopping roller are controlled. It is arranged with a means that positions the yarn in a half twist position before the commencement of driving of the false twist member.

### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a side view of the entire false twister used on the present invention.

Figure 2 is a side view of a yarn introduction pipe, a first heater and one part of a cooling device and the like of the false twister shown in Figure 1.

Figure 3 is a perspective view of the first heater and the cooling device of the false twister shown in Figure 1.

Figure 4 is a perspective view of the same first heater and the cooling device shown in Figure 3.

Figure 5 is an enlarged side view of the yarn introduction pipe and the like of the false twister shown in Figure 1.

Figure 6 is a side view of the false twist member and the false twist position alteration member.

### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

An embodiment of the yarn threading device of the false twister of the present invention will be described according to Figures 1 to 6. However, the present invention is not limited to the present embodiment provided the aims of the present invention are not exceeded.

Firstly, using Figure 1, the running pathway of the yarn in the normal false twisting state of the false twister that utilises a yarn threading method and device of the present invention will be described.

A yarn 3 unwound from a supply package 2 supported on a creel stand 1 is guided to a first feed roller 8 via guide 4 arranged on the creel stand 1 and guides 6,7 arranged on a frame 5 of the false twister. Subsequently, while being guided to the twist stopping roller 14 arranged on the tip of an operation lever 13 supported by a frame 12 and to a fixed guide 15 arranged on the yarn introduction side of a first heater H1 via a guide 9, an air blowing nozzle 10 and a straight pipe 11, the yarn 3 is inserted in the first heater H1.

The yarn 3 which has left the first heater 1 enters a cooling device C and is subsequently imparted with a twist by a false twist member T. Afterwards, it is guided to a second feed roller 20 via a guide 16, a tension sensor guide 17, a guide 18 and a first funnel shaped guide 19. The yarn 3 from the second feed roller 20 is wound on a winding package 28 via a second funnel shaped guide 21, a second heater H2, a guide 22, a third feed

roller 23, an oiling roller 25 which is partially immersed in the oil tank 24 and guides 26,27.

p1 is an operation lever of the false twist position alteration member P (to be described later) arranged on the operation panel 29. 30 is an approximately "U" shaped yarn introduction pipe for introducing the yarn 3 into the first heater H1, is arranged between the upper tip 11' of the straight pipe 11 and the entrance area of the first heater H1 and is constructed with a slit 30' on the inside edge of the curve.

G is a yarn threading member to be described later for easing passage of the yarn 3 through the first heater H1 and the cooling device C and preventing contact of the yarn 3 with the twist stopping roller 14 and the fixed guide 15. 31 is a gutter shaped first guide member arranged side of the guides 16,18 and the tension sensor guide 17, and the upper part of the first funnel shaped guide 19. 32 is a gutter shaped second guide member arranged between the second feed roller 20 and the second funnel shaped guide 21.

Sp is a slit pipe comprising a slit in the longitudinal direction along the upper part and arranged below the cooling device C. The first heater H1 side end of the slit pipe Sp is positioned near the exit of the tube heater (described later) arranged on the first heater H1 and the other end is positioned near the upper part of the gutter shaped first guide member 31. When yarn threading operations (to be described later) are carried out, the yarn 3 which has left the exit of the first heater H1 is inserted in the slit pipe Sp and when the running of the yarn 3 starts, it avoids the slit due to the tension of the yarn 3 and runs beneath the cooling device C positioned slightly above. It should be noted that, for convenience, the slit pipe Sp has been omitted from Figsure 3 and 4.

Next, using mainly Figures 2 to 5, the structure and operations of the first heater H1, the cooling device C and the yarn threading member G will be described.

Under normal false twisting conditions, as abovementioned, the yarn 3 that has left the straight pipe 11 curves approximately 90 degrees via the twist stopping roller 14 arranged on the end of the operation lever 13 and the fixed guide 15 as shown in Figure 2 and enters the first heater H1. The first heater H1 had a cylindrical tube heater h2 in which an electric coil (not shown in the drawings) is incorporated around the outer periphery and which is arranged inside a publicly known heater box h1. Slit shaped holes h3 are formed at predetermined intervals on the underside of the tube heater h2 and the end of a yarn guide member h4 comprising a guide groove h4' on it's tip is inserted in the slit shaped hole h3.

The lower end of yarn guide member h4 is attached to a rod g1 arranged along the axial direction of th tube heater h2 below the tube heater h2. Both end parts of the rod g1 are inserted in elongated slits g2',g3' present in support brackets g2,g3 arranged at a predetermined spacing on a suitable frame (not shown in the drawings) of the false twister. A horizontal plate g4 is attached to near one end of the rod g1 so that it is at right angles to the rod g1. The lower part of a piston rod g6 projecting from the bottom of a vertical cylinder g5 arranged on a suitable frame (not shown in the drawings) of the false twister is attached to the end of the horizontal plate g4.

One end of a swivel lever g8 which is able to swivel about horizontal shaft g7 as the center and is attached to a suitable frame (not shown in the drawings) of the false twister, is attached to the tip of the piston rod g6 projecting from the top of the vertical cylinder g5. A horizontal pin g8' attached to the other end of the swivel lever g8 is inserted in a long lateral slit c1' present in a support bracket c1 attached to the upper part of the cooling device C on the first heater H1 side.

A plate shaped operation lever g9 from the end of which projects a pin g9' is attached to the other end of the rod g1. g10 is a flat rotation lever in which a horizontal shaft g12 attached to a suitable frame (not shown in the drawings) of the false twister is inserted in a hole g11 bored in approximately the center. A yarn guide part g10' extends from the upper part of the rotation lever g10 and a slit g10" is bored along the lower part of the rotation lever g10.

g13 is a roughly "L" shaped flat connecting lever. A horizontal shaft g14 attached to the corner area of the connecting lever g13 is inserted in a shaft hole bored in a suitable frame of the false twister and as a consequence, the connecting lever g13 is able to rotate about the horizontal shaft g14. A slit g13' is formed in the operation lever g9 side of the connecting lever g13 and a pin g9' of the operation lever g9 is inserted in the slit g13'. A yarn guide part g15 projects on the side opposite to the operation lever g9 of the connecting lever g13. Further, a pin g13" inserted in a slit g10" of the rotation lever g10 projects on the side more toward the corner from the horizontal shaft g14.

Next, using Figures 2 to 5, the operations of the yarn threading member G will be described.

Preceeding the yarn threading operations, the vertical cylinder g5 is operated from the state shown in Figures 2 and 3 and the piston rod g6 is lowered. When the piston rod g6 goes down, the swivel lever g8 rotates in a clockwise direction about the horizontal shaft g7 as shown in Figure 4. Accordingly, the horizontal pin g8' attached to the other end of the swivel lever g8 lifts up the the support bracket c1 attached to the upper part of the cooling device C on the first heater H1 side and lifts upwards the cooling device C about support point c2 (shown in Figure 1) on the false twist member T side of the cooling device C.

Conversely, when the piston rod g6 goes down, the rod g1 goes down via the horizontal plate g4 along the longitudinal slits g2',g3' formed in the support brackets g2,g3 and as a result, the yarn guide members h4 attached to the rod g1 are removed from tube heater h2 as shown in Figures 4 and 5 and are dropped to the standby position below the tube heater h2.

Furthermore, when the rod g1 goes down, the operation lever g9 attached to the tip of the rod g1 goes

down. Due to the lowering of operation lever g9, the connecting lever g13 in which a pin g9' is inserted in the slit g13', rotates in a counter clockwise direction about the horizontal shaft g14 as in Figure 2 and, as shown in Figure 5, the yarn guide part g15 of the connecting lever g13 moves between the twist stopping roller 14 and the yarn introduction pipe 30 and prevents the yarn 3 contacting with the twist stopping roller 14.

Furthermore, when the connecting lever g13 rotates in a counter clockwise direction about the horizontal shaft g14 as in Figure 2, the rotation lever g10 in which a pin g13" of the connecting lever g13 is inserted in the slit g10" rotates in a clockwise direction about the horizontal shaft g12 as in Figure 2 and, as shown in Figure 5, the yarn guide part g10' of the rotation lever g10 is moved higher than the fixed guide 15 and during the yarn threading operations, the yarn 3 does not touch the fixed guide 15.

As described above, when a yarn threading operation is carried out, the yarn guide members h4 are retracted from the tube heater h2 so that the yarn guide members h4 do not interfere with the insertion of yarn 3 into the tube heater h2. Simultaneously, the yarn guide part g15 of the connecting lever g13 is moved between the twist stopping roller 14 and the yarn introduction pipe 30. Contacting of the yarn 3 with the twist stopping roller 14 is prevented, the rotation lever g10 is rotated in a clockwise direction and the inserted yarn 3 does not contact the the fixed guide 15.

Next, using Figure 6, the false twist member T and one example of the false twist position alteration member P will be described.

One example of the false twist member T which applies a false twist to the yarn 3 has a pair of endless nip belts t1,t2. The nip belts t1,t2 are stretched between support rollers t1',t1" arranged at a predetermined spacing and support rollers t2',t2" respectively.

p2 is a false twist position alteration lever having a horizontal shaft p2' inserted in a shaft hole suitably bored in the frame of the false twister and yarn guide p3 is attached to the tip of the false twist position alteration lever p2. p4 is a guide that guides the yarn 3 that is positioned mid-point in the false twist position alteration lever p2. p5 is a coil spring supported between a pin p6 suitably attached to the frame of the false twister and a pin p7 attached to the false twist position alteration lever p2 more to the yarn guide p3 side than the horizontal shaft p2'. As in Figure 6, the false twist position alteration lever p2 is forced in a clockwise direction about the horizontal shaft p2' by the elastic force of the coil spring p5.

p8 is an extended part of the false twist position alteration lever p2 extending to the side opposite the yarn guide p3. One end of the operation wire p9 is attached to the tip of the extended part p8. The other end of the operation wire p9 is attached to the operation lever p1 arranged on an operation panel 29. p10 is a click pin that is in contact with the semi-circular end p2" of the false twist position alteration lever p2 due to a spring p11 stored in a suitable receptacle. The click pin p10 is comprised such that it connects with one of three notches p12-p14 formed in the semi-circular end p2" of the false twist position alteration lever p2. It should be noted that as the false twist position alteration lever p2 can be rotated by the aforementioned operation wire p9, the above mentioned coil spring p5 may be omitted.

When the yarn 3 is being normally false twisted by the false twist member T, the false twist position alteration lever p2 is in the upper position P2a as shown by the solid line in Figure 6 so that the yarn 3 passes through the center point p15 of the contact area of the nip belts t1,t2. In order to position the false twist position alteration lever p2 in the upper position P2a, the operation lever p1 is rotated upwards about the central shaft p1' to the upper position P2a as shown by the solid line in Figure 6 and as a consequence, the click pin p10 connects with the highest positioned notch p12 of the three notches p12-p14 formed in the semi-circular end p2" of the false twist position alteration lever p2.

When yarn threading operations are to be carried out, a operation switch m1 arranged on the operation panel 29 is operated, a suitable drive member (not shown in the drawings) is moved, the nip belts t1,t2 are seperated and a gap is formed between the nip belts t1,t2 through which the yarn 3 can pass. Then, during the insertion operation of the yarn 3 between the nip belts t1,t2, the operation wire p9 is pulled downwards due to the operation lever p1 being rotated downwards about the central shaft p1' as shown by the double dotted line of Figure 6 and the false twist position alteration lever p2 is rotated about the horizontal shaft p2' to the lower standby position P2c shown by the double dotted line of Figure 6. The click pin p10 connects with the lowest positioned notch p14 formed in the semi-circular end p2" of the false twist position alteration lever p2 rotated to the lower standby position P2c.

When the yarn 3 is inserted in the gap formed between the nip belts t1,t2 by the yarn threading operation, the seperated nip belts t1,t2 are contacted and false twist operations are to begin (as described later), firstly the yarn 3 is positioned in a half twist position p16 lower than the central point p15 of the contact area of the nip belts t1,t2 so that there is no breakage from the application of a sudden false twist. In order to position the yarn 3 in this half twist position p16, the operation lever p1 in the lower standby position P2c is rotated upwards and is moved to the middle position P2b between the lower standby position P2c and the upper full twist position P2a.

In this way, when the operation lever p1 is rotated to the middle position P2b shown by the dotted line in Figure 6 from the lower standby position P2c, the click pin p10 seperates from the lowest notch p14 and connects with the middle notch p13 and the false twist position alteration lever p2 moves the yarn 3 to the half twist position p16. Thus once the yarn 3 has been moved to the half twist position p16 where a false twist count less than the normal false twist count is started, the opera-

tion lever p1 is rotated to the upper position P2a from the middle position P2b after a predetermined amount of time has elapsed, the false twist position alteration lever p2 is thus rotated as far as the upper solid line position P2a from the middle position P2b and the yarn 3 is moved to the full twist position at the central point p15 of the contact area of the nip belts t1,t2.

It should be noted that the above described embodiment shows the notches p12-p14 are arranged on the false twist position alteration lever p2 and the click pin p10 that connects with the notches p12-p14 but similar notches and a click pin that connects with those notches may be arranged on the operation lever p1.

Next, the yarn threading operations carried out at the start of operations or when a yarn breakage occurs will be described.

Preceeding the yarn threading operations, a operation switch m2 arranged on the operation panel 29 is operated and as described above, the vertical cylinder g5 is operated and the piston rod g6 goes down. Due to the going down of the piston rod g6, the swivel lever g8 is rotated in a clockwise direction about the horizontal shaft g7 as shown in Figure 4 and the first heater H1 side of the cooling device C is lifted upwards. In this way, the first heater H1 side end of the cooling device C is retracted from the exit of the tube heater h2 and the yarn 3 inserted in the tube heater h2 does not contact the first heater H1 end of the cooling device C.

Furthermore, when the piston rod g6 goes down, the rod g1 lowers via the horizontal plate g4 and the yarn guide members h4 attached to the rod g1 retract from the inside of the tube heater h2. Accordingly, the yarn guide members h4 do not interfere with the insertion of the yarn 3 in the tube heater h2.

Further still, when the rod g1 goes down, the connecting lever g13 rotates in a counter clockwise direction about the horizontal shaft g14 as in Figure 2 via the the operation lever g9 attached to the end of the rod g1. The yarn guide part g15 of the connecting lever g13 is moved between the twist stopping roller 14 and the yarn introduction pipe 30 as shown in Figure 5 and contact of the yarn 3 with the twist stopping roller 14 is prevented. Also, when the connecting lever g13 rotates in a counter clockwise direction about the horizontal shaft g14 as in Figure 2, the rotation lever g10 in which the pin g13" is inserted in the slit g10" rotates about the horizontal shaft g12 in a clockwise direction as in Figure 2 and as shown in Figure 5, the threaded yarn 3 does not contact the fixed guide 15 due to the yarn guide part g10' of the rotation lever g10.

Also preceeding the yarn threading operation, the operation switch m1 arranged on the operation panel 29 is operated, a suitable drive member (for example, an air cylinder may be a drive member when the pair of belts are contacted by an air cylinder) which is not shown in the drawings is op rated, the nip belts t1,t2 are seperated and a gap is formed between the nip belts t1,t2 into which the yarn 3 may be inserted. Further, the contact belt 8' of the first feed roller 8 is seperated from the main roller 8" and a gap is formed between the main roller 8" and the contact belt 8' into which the yarn 3 may be inserted. Yet further, the operation lever p1 arranged on the operation panel 29 is rotated as far as lower position P2c being the lowest position and the false twist position alteration lever p1 is rotated as far as the lower standby position P2c shown in Figure 6 by the double dotted line. It should be noted that the second feed roller 20 and the third feed roller 23 are in a operating state where they are in contact with the contact belts 20',23' and the main rollers 20",23" respectively.

Next, the yarn end is unwound from the supply package 2, passed through the guides 4,6,7 and the first feed roller 8 comprising a gap between the contact belt 8' and the main roller 8" and inserted into the air blowing nozzle 10. And a suction hole 33' of a hand sucker 33 is positioned at the exit of the second heater H2. It should be noted that the air blowing nozzle 10 is positioned near the yarn entrance at the lower part of the straight pipe 11 and is arranged so that it is accessible by an operator from the floor. Due to this kind of positioning of the air blowing nozzle 10, the operator can insert the yarn end of the yarn 3 unwound from the supply package 2 supported on the creel 1 into the air blowing nozzle 10 when yarn threading is to be carried out without the use of step ladders or carts.

Afterwards, the air blowing nozzle 10 is operated, air is blown towards the entrance of the straight pipe 11 and the yarn 3 passes through the straight pipe 11. The yarn 3 which has left the exit of the straight pipe 11 is guided to the yarn introduction pipe 30 situated between the upper end 11' of the straight pipe 11 and the entrance area of the first heater H1, is inserted in the tube heater h2 from which the yarn guide members h4 are retracted and then inserted in the slit pipe Sp that is positioned below the cooling device C of which the first heater H1 side is lifted up. The yarn 3 inserted in the yarn introduction pipe 30 is pulled out of the slit 30' formed in the yarn introduction pipe 30 and, as described above, contacts the yarn guide part g10' of the rotation lever g10 and yarn guide part g15 of the connecting lever g13 and contact with the fixed guide 15 and the twist stopping roller 14 is prevented.

The yarn 3 that has left the slit pipe Sp passes between the seperated nip belts t1,t2, is guided to the gutter shaped first guide member 31, contacts the guide 16, the tension sensor guide 17 and the guide 18, and is inserted between the main roller 20" and the contact belt 20' that comprises the second feed roller 20 while being guided to the first funnel shaped guide 19. Afterwards, the yarn 3 is guided to the gutter shaped second guide member 32 positioned between the second feed roller 20 and the second funnel shaped guide 21 and then the second funnel shaped guide 21 and is inserted in the second heater H2. Then the yarn 3 which has been inserted in the second heater H2 is sucked into the suction hole 33' of the hand sucker 33 positioned at the exit of the second heater H2.

As described above, after the yarn 3 unwound from

supply package 2 has been sucked and held in the hand sucker 33 positioned at the exit of the second heater H2, the operating lever p1 is rotated to the middle position P2b, the false twist position alteration lever p2 rotates upwards and the yarn 3 moves to the half twist position p16. Next, the operation switch m1 is operated, the appropriate driving member (not shown in the drawings) is moved, the nip belts t1,t2 are contacted and simultaneous with the start of twist application, the contact belt 8' of the first feed roller 8 is contacted with the main roller 8" and yarn delivery restarts due to the first feed roller 8.

When twist application starts, a twist is imparted in the yarn 3 at the half twist position p16. Accordingly, as no sudden twist is imparted, there is no breakage of the yarn 3 due to any sudden twisting and the yarn 3 does not contact the fixed guide 15 due to the yarn guide part g10' of the rotating lever g10. Furthermore, as the yarn 3 does not contact the twist stopping roller 14, there is no sudden application of abrasive resistance and problems such as breakage of the running yarn 3 can be avoided.

After twist application at the half twist position p16, the operation switch m2 is operated and as described above, the vertical cylinder g5 is operated and the piston rod g6 is raised. Due to the raising of the piston rod g6, the yarn guide members h4 are inserted inside the tube heater h2, the yarn 3 inserted in the tube heater h2 is guided by the guide grooves h4' of the yarn guide members h4 and the first heater H1 side of the cooling device C drops and returns to the standard position. Due to these operations, the running yarn 3 contacts the cooling device C.

Furthermore, when the rod g1 rises, the connecting lever g13 rotates clockwise, via the operation lever g9 attached to the end of the rod g1, about the horizontal shaft g14 as in Figure 5, the rotation lever g10 rotates counter clockwise and accordingly, the yarn 3 seperates from the yarn guide part g10' of the rotation lever g10 and the yarn guide part g15 of the connection lever g13 and contacts the fixed guide 15 and the twist stopping roller 14. Afterwards, the operation lever p1 is rotated to the upper position P2a from the middle position P2b and the false twist position alteration lever p2 rotates upwards so that the yarn 3 passes through the full twist position at the central point p15 of the contact area of the nip belts t1,t2. It should be noted that the yarn 3 inserted in the slit pipe Sp comes out of the slit and runs in the vicinity of below the cooling device C positioned in the upper position when the yarn 3 starts running and a predetermined tension is imparted on the yarn 3.

After the above mentioned operations have been completed, the yarn 3 is passed through the third feed roller 23 comprising the contact belt 23' and the main roller 23" using the hand sucker 33 which is positioned at the exit of the second heater H2 and which sucks and holds the yarn 3 in a normal false twist processed state. It is then passed through the oiling roller 25 and the guides 26,27 and threaded onto the winding package 28. In this way, the yarn threading operations are completed.

It should be noted that as the above mentioned yarn threading operations are completed by a single burst of air from the air blowing nozzle 10, there is no need to carry out repetitive operations of the air blowing nozzle 10 during the yarn threading operations. Further, as a result of lowering of the operation lever 13 supported by the frame 12, the yarn 3 wound on the twist stopping roller 14 can be removed due to the twist stopping roller 14 positioned on the end of the operation lever 13 being lowered to a position within the reach of the operators hand.

The movement of the false twist position alteration lever p2 to the standby position, the half twist position and the full twist position is not limited to the present embodiment and a variety of movement devices may be employed. Further, various publicly known types of heater such as non-contact types may be used as the first heater H1.

As the yarn unwound from the supply package is transported non-stop as far as a predetermined reception position by air blowing, the yarn threading operation time is shortened and accordingly, the operating efficiency of the false twister is improved.

As each of the means necessary for yarn threading operations is controlled by the operation of the operating switch positioned on the operating panel, the use of step ladders or carts is not necessary when yarn threading is to be carried out and as a consequence, the operator's yarn threading operations are lightened and the operator need not perform any dangerous operations.

As a means for positioning the yarn in a half twist position is arranged before the start of driving of the false twist member, yarn breakage due to sudden twist application can be prevented.

## Claims

1. A yarn threading method of a false twister that winds a yarn pulled from a supply package onto a winding package via a first heater, a cooling device, a false twist member and the like, that
   transports the yarn pulled from the supply package to a predetermined yarn reception position via the first heater, the cooling device and the like by a fluid current due to the fluid injection.

2. A yarn threading method of a false twister as in claim 1, wherein, preceeding the yarn threading, yarn guide members positioned in the yarn running path of the false twister having the aforementioned first heater, false twist member and the like are retracted to a position where they do not obstruct the yarn passage and afterwards the yarn is transported by a fluid current from the fluid injection.

3. A yarn threading method of a false twister as in

claims 1 or 2, wherein the aforementioned fluid that transports the yarn is an air current.

4. A yarn threading device of a false twister that winds a yarn pulled from a supply package onto a winding package via a first heater, a cooling device, a false twist member and the like, comprising

   a transporting means for pulling the yarn from the supply package to a predetermined yarn end reception position via the first heater, the cooling device and the like by a fluid current due to the fluid injection.

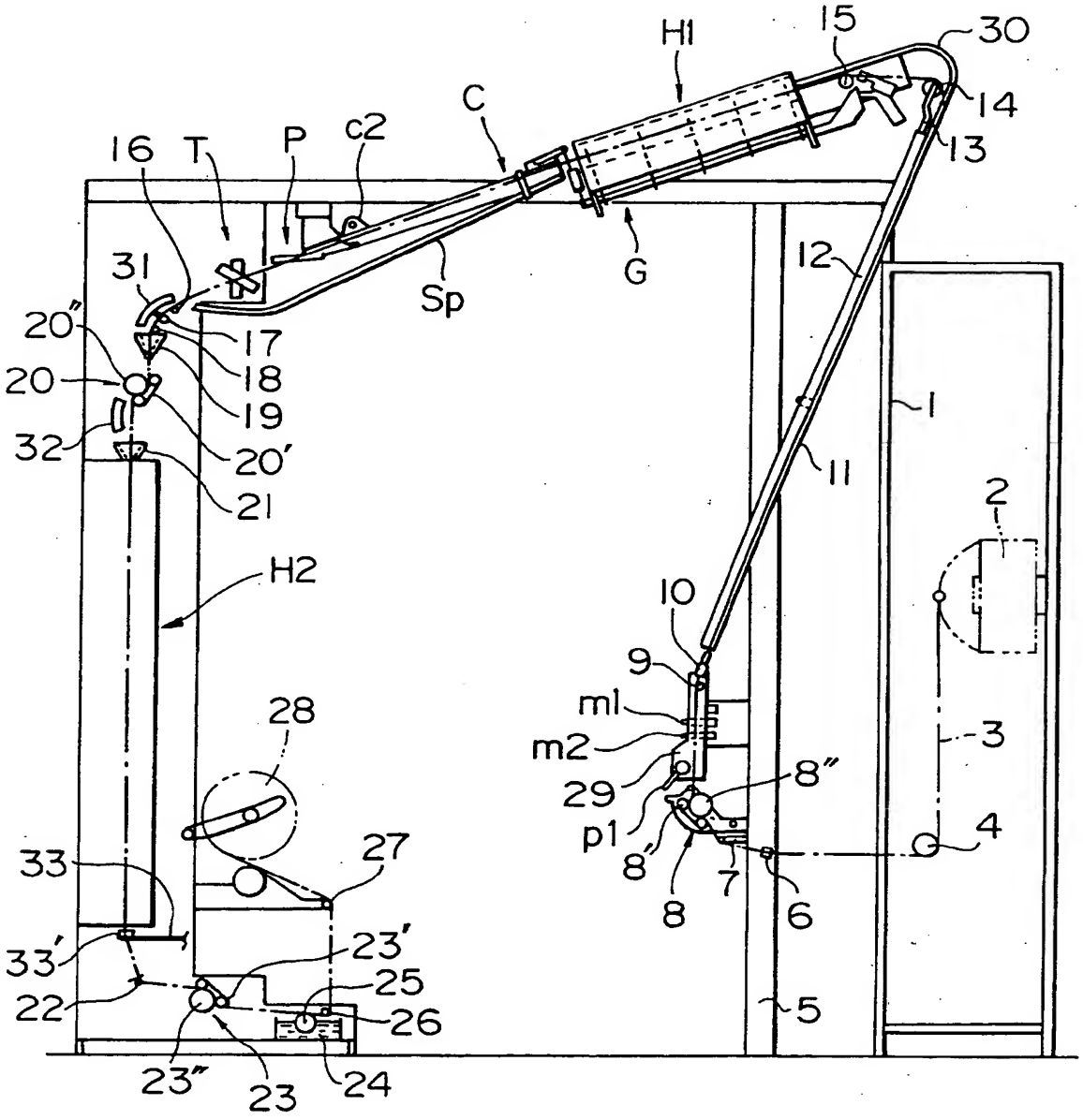
5. A yarn threading device of a false twister as in claim 4, wherein the aforementioned fluid that transports the yarn is an air current.

6. A yarn threading device of a false twister as in claims 4 or 5, wherein the aforementioned false twister has a second heater in continuance with the false twist member and the aforementioned yarn end reception position is the yarn exit of the said second heater.

7. A yarn threading device of a false twister as in claims 4 or 5, wherein a movement means of the members necessary in order to maintain the yarn passage necessary for a yarn threading operation from the first heater to the yarn end reception position is controlled by operation switchs positioned on the operation panel.

8. A yarn threading device of a false twister as in one of claims 4 through 7, wherein a means for positioning the yarn in a half twist position before the start of driving of the false twist member is arranged.

FIG.1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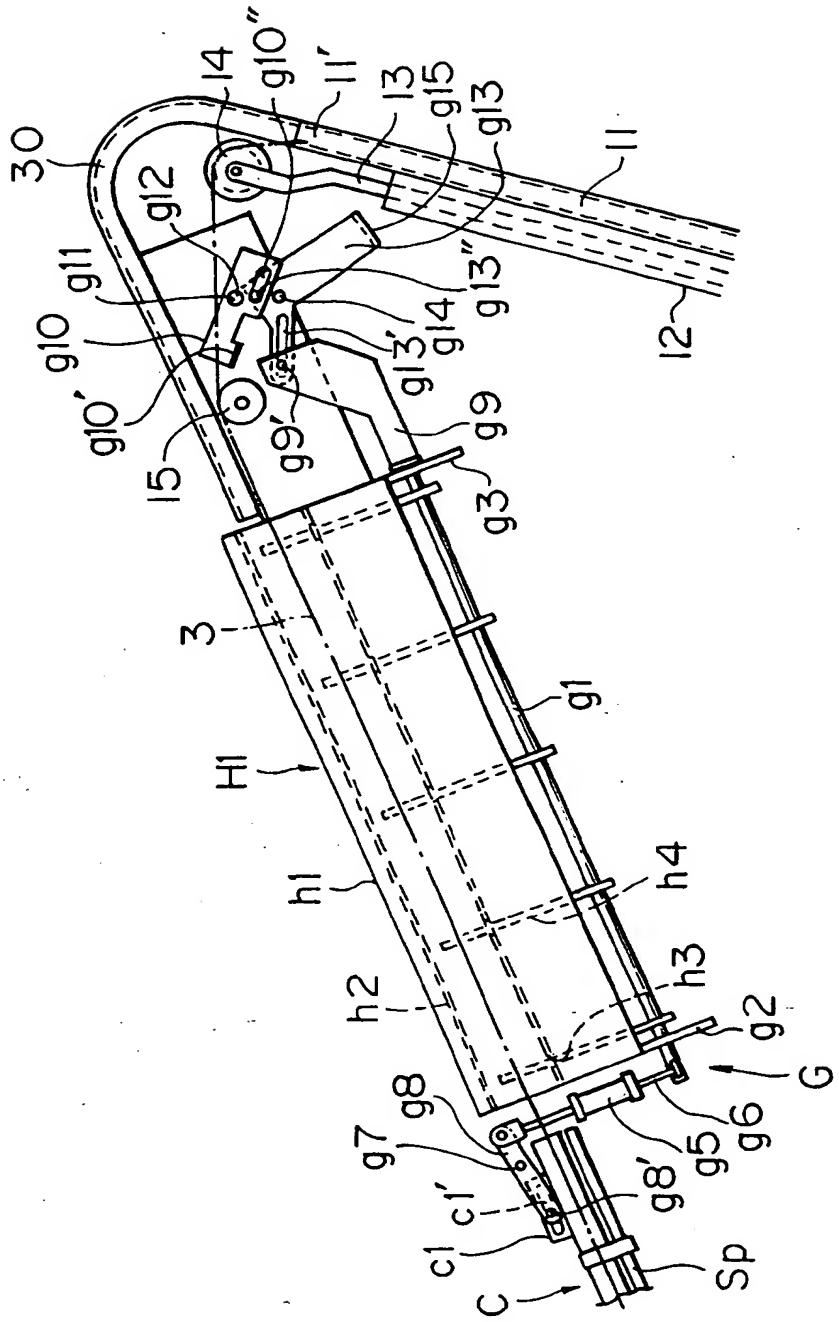
15
30
C
14
16
T
P
c2
13
31
G
12
Sp
20″
17
18
20
19
1
32
20′
11
21
2
H2
10
9
28
m1
3
m2
8″
29
4
p1
27
8″
7
33
8
6
33′
23′
25
22
5
26
23″
23
24

FIG.2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11'
13
g15
g13
11
g12
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g13"
g14
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12
15
g9'
g9
g3
3
g1
H1
h1
h4
h3
h2
g2
G
g8
g7
g6
g5
g8'
c1'
c1
C
Sp

FIG. 3

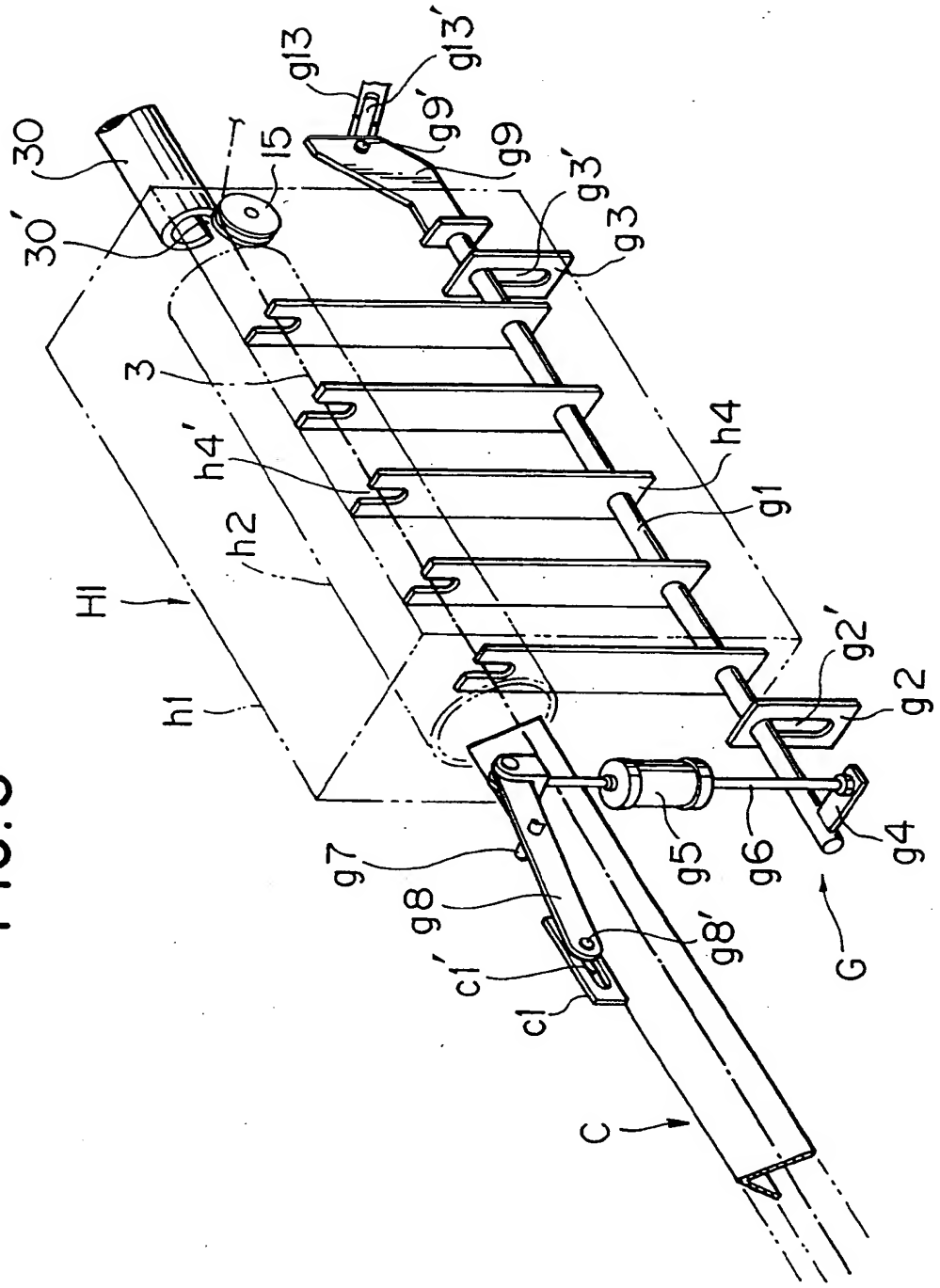

g13
g13'
g9'
g9
30
15
g3'
30'
g3
3
h4'
h4
g1
h2
HI
g2'
g2
h1
g7
g5
g6
g4
g8
g8'
G
c1'
c1
C

FIG. 4

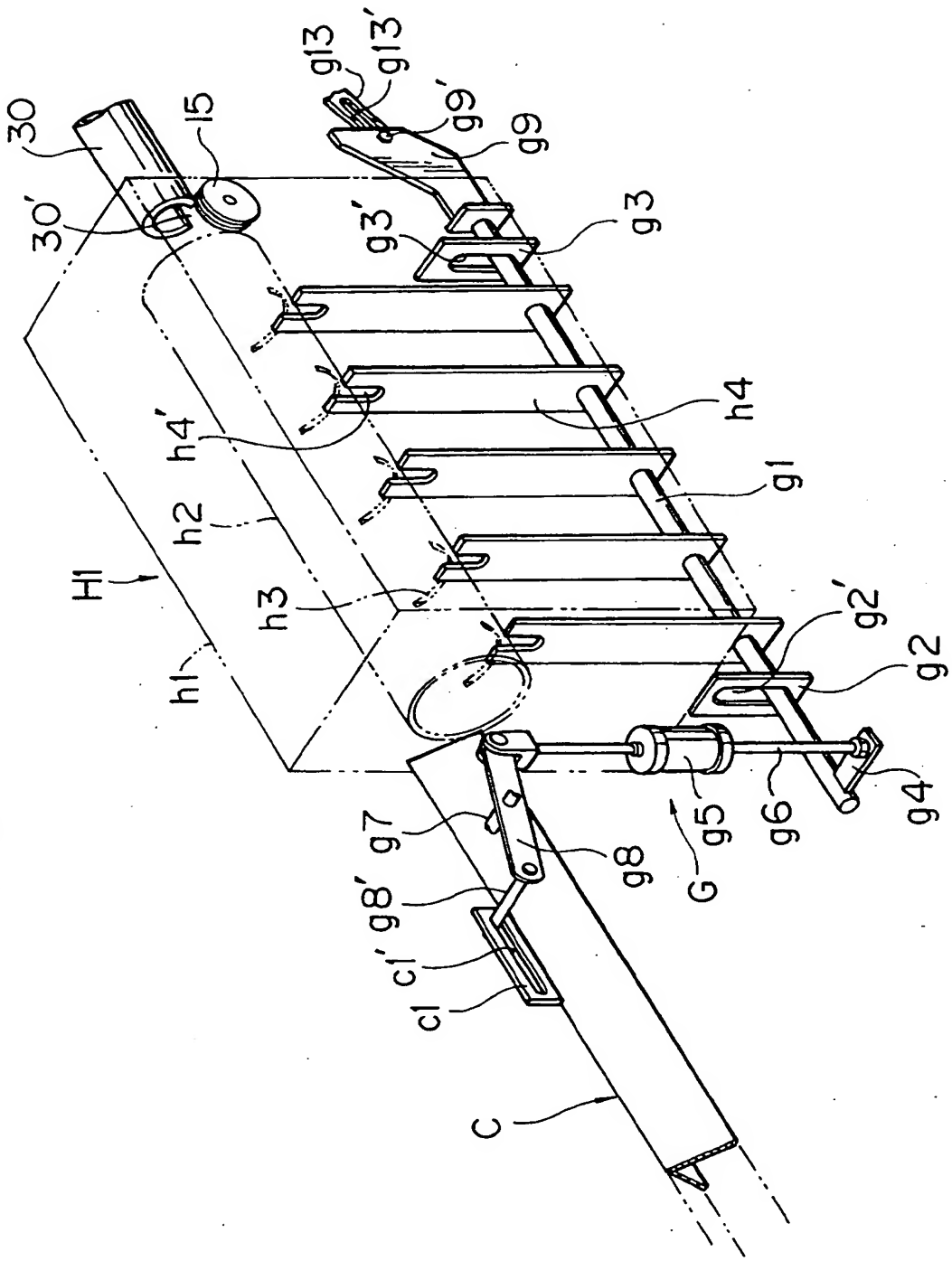

30
15
g13
g13'
g9'
g9
30'
g3'
g3
h4
h4'
g1
h2
H1
h3
g2'
g2
h1
g4
g5
g6
g7
g8
G
g8'
c1'
c1
C

FIG.5

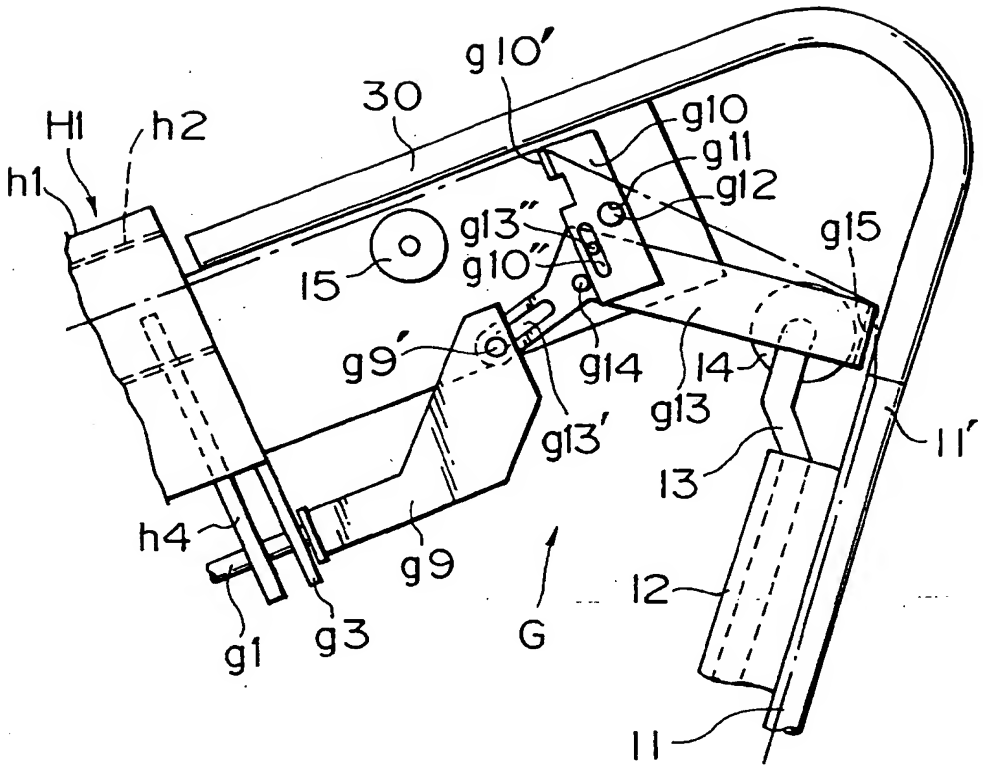
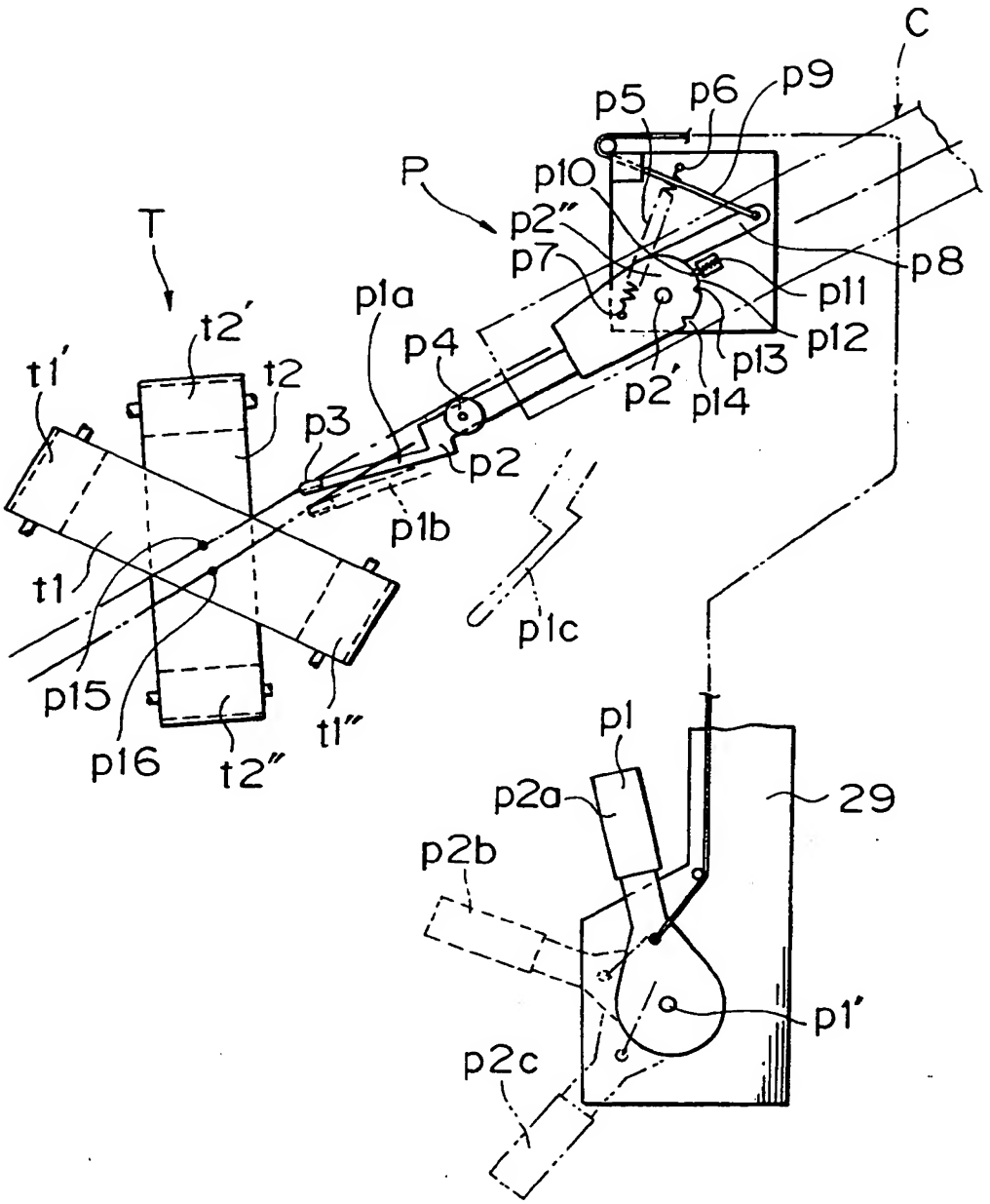

g10'
30
H1
h2
h1
g10
g11
g12
g13''
g10''
15
g15
g9'
g14
14
g13
g13'
11'
13
h4
g9
12
g1
g3
G
11

FIG. 6


C
p5
p6
p9
P
p10
p2‴
T
p7
p8
p11
p1a
t2′
p4
p12
p13
t1′
t2
p2′
p14
p3
p2
p1b
t1
p1c
p15
t1″
p16
t2″
p1
p2a
29
p2b
p1′
p2c